Abstract

The present invention involves apparatus and methods to perform wireless terminal transmission power control. The invention uses novel and highly efficient methods to: convey power control information, specify power control level adjustments, recognize power control information, limit interference in the power control signaling, and recognize corrupted power control signaling, thus conserving wireless terminal energy and minimizing power control signaling and associated bandwidth. Base stations send analog power control command signals, with a continuous range of control levels, to wireless terminals for transmission power adjustments. Power control signals include two components which can be used to convey information, e.g., power control commands, signal quality, device identity information. For zero power adjustment, the control component signal is not transmitted. For a non-zero adjustment, power control signals are sent using control ranges and limits, known to the base station and wireless terminal, with the scaling adjusted or synchronized based upon feedback information.